EXAMINER'S AMENDMENT / COMMENT

Oath/Declaration

This application presents one or more claims for subject matter not originally claimed or embraced in the statement of the invention. The original claims and statement of the invention do not contain any discussion of deriving a client event from the at least one state event prior to transmission of the client event to the respective client, wherein the deriving of the client event occurs upon placement of the at least one state event in the client event queue or upon removal of the at least one state event from the client event queue, and further wherein said embedded functions that encompass a basic set of aggregation and combination rules for state events are removed from the client event, as in claims 1 and 21.

A supplemental oath or declaration is required under 37 CFR 1.67. The new oath or declaration must properly identify the application of which it is to form a part, preferably by application number and filing date in the body of the oath or declaration. See MPEP §§ 602.01 and 602.02.

Examiner's Amendment

Examiner's amendment to the record appears below. Should the changes be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be filed no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephonic interview with Dale G. Mohlenhoff, Reg. No. 37,683 on April 21, 2009.

In the claims:

Claims 1, 3, 19, 21-23, 25-27, and 34 are currently amended.

Claims 1-3, 5-15, 17-23, 25-31, 33, and 34 remain in the application.

1. (Currently Amended) A method for processing information provided from at least one content provider about [[a]] ~~state~~ states of a plurality of objects, the states being subject to periodic updates, and for delivering formatted information indicating a current state of at least a portion of the plurality of objects to a plurality of clients via a data communication network in substantially real-time, the method comprising the steps of:

in [[an]] each of at least a first and a second information manager:

receiving raw data objects on at least one raw data stream input;

generating a formatted data object from a received raw data object;

storing a current state of the formatted data object in an object storage pool; and

broadcasting the current state of the formatted data object on a particular broadcast data stream;

in a client manager:

establishing communication sessions with a plurality of clients;

connecting to at least [[one]] two broadcast data ~~stream~~ streams, wherein the connecting to at least [[one]] two broadcast data ~~stream~~ streams comprises:

connecting to ~~a first~~ the particular broadcast data stream from [[a]] the first information manager of the plurality of information managers; and

connecting to ~~a second~~ the particular broadcast data stream from [[a]] the second information manager of the plurality of information managers;

receiving on [[a]] each of the connected particular broadcast data stream [[a]] the current state ~~for a specific~~ of the formatted data object;

updating an object pool cache to reflect the current state of each of the ~~specific~~ formatted data ~~object~~ objects; and

transmitting the current state of at least one of the ~~specific~~ formatted data ~~object~~ objects to a set of clients from the plurality of clients;

wherein each connected client has a respective client event queue, the step of transmitting the current state of at least one of the ~~specific~~ formatted data ~~object~~ objects to the set of clients comprises the steps of, for each respective client in the set of clients and for each of the at least one of the formatted data objects:

placing [[a]] at least one state event in the client event queue associated with the respective client, the at least one state event containing the current state of the ~~particular~~ corresponding formatted data object and embedded functions that encompass a basic set of aggregation and combination rules for state events;

deriving a client event from the at least one state event prior to transmission of the client event to the respective client, wherein the deriving of the client event occurs upon placement of the at least one state event in the client event queue or upon

removal of the at least one state event from the client event queue, and further wherein ~~the format and configuration of the derived client event differs from the state event~~ said embedded functions that encompass a basic set of aggregation and combination rules for state events are removed from the client event; and

subsequently transmitting the client event derived from ~~at least~~ the at least one state event in the client event queue to the respective client.

2. (Original) The method of claim 1, wherein the step of broadcasting the current state of the formatted data object comprises:

determining if a prior version of the formatted data object was present in the object storage pool;

if a prior version of the formatted data object was present, determining a data differential between the prior version and the current state of the formatted data object and broadcasting the data differential on the particular broadcast data stream;

otherwise, broadcasting the current state of the formatted data object on the particular broadcast data stream.

3. (Currently Amended) The method of claim 1, wherein each client has an associated profile comprising data indicating data stream subscriptions and at least one object rule associated with the subscribed data streams;

the step of transmitting the current state of the at least one of the ~~specific~~ formatted data ~~object~~ objects comprising the steps of:

for each respective client subscribed to particular ~~input~~ broadcast data stream, evaluating from the client profile associated with the respective client the object rules associated with the particular ~~input~~ broadcast data stream against the ~~specific~~ formatted data object; and

transmitting the current state of the ~~specific~~ formatted data object to the respective client in response to a positive evaluation.

4. (Canceled)

5. (Original) The method of claim 1, wherein the step of broadcasting the current state comprises broadcasting a corresponding sequence number associated with the current state.

6. (Original) The method of claim 1, further comprising the step of determining an object type of the raw data object;

the step of generating the formatted data object comprising the step of applying a set of formatting rules to the received raw data object in accordance with the object type.

7. (Original) The method of claim 6, further comprising the step of translating the raw data object into a raw event comprising at least one name-value pair prior to performing the steps of determining an object type of the raw data object and generating a formatted data object.

8. (Original) The method of claim 1, further comprising the step of determining an object type of the raw data object;

the particular broadcast data stream being selected from a plurality of broadcast data streams according to the object type.

9. (Original) The method of claim 1, further comprising the steps of:

validating the contents of the raw data object; and

upon a failed validation, preventing subsequent broadcast of the current state of the formatted data object data derived from the raw data object.

10. (Original) The method of claim 1, wherein the raw data object comprises information related to a financial product offering.

11. (Original) The method of claim 1, further comprising the step of, in the client manager:

after connecting to a particular broadcast data stream, initializing the object pool cache with an initial state of data objects carried on the particular broadcast data stream.

12. (Previously Presented) The method of claim 1, further comprising the step of obtaining an initial state of data objects from the information manager generating the particular broadcast data stream.

13. (Original) The method of claim 11, further comprising the step of, after establishing a communication session with a particular client, delivering to the particular client a snapshot of a set of data objects in the object pool cache which are carried on broadcast data streams to which the particular client is subscribed.

14. (Original) The method of claim 1, further comprising the step of, in the client manager:

in response to a detection that a particular client has subscribed to a new broadcast data stream not in set of connected broadcast data streams, connecting to the new broadcast data stream.

15. (Previously Presented) The method of claim 14, further comprising the steps of, in the client manager:

initializing the object pool cache with an initial state of data objects carried on the new broadcast data stream; and

delivering to the particular client a snapshot of a set of the data objects in the object pool cache associated with the new data stream.

16. (Canceled)

17. (Previously Presented) The method of claim 1, further comprising the steps of:

identifying pending state events associated with a respective client which are related to a common data object; and

aggregating the identified state events to thereby reduce the number of pending state events.

18. (Previously Presented) The method of claim 17, where the identified state events are aggregated into a single state event.

19. (Currently Amended) The method of claim 1, further comprising the steps of:

monitoring the performance of communication with each connected client; and

dynamically adjusting a rate at which the current state of the ~~specific~~ formatted data object is transmitted to each respective client in response to the monitored performance.

20. (Original) The method of claim 19, wherein the step of monitoring the performance of communication with each connected client comprises determining network transmission time and a client processing time for received transmissions.

21. (Currently Amended) A system including at least one processor for processing information provided from at least one content provider about [[a]] ~~state~~ states of a plurality of objects, the states being subject to periodic updates, and for delivering formatted information indicating a current state of at least a portion of the plurality of objects to a plurality of clients via a data communication network in substantially real-time, the system comprising:

[[an]] at least a first and a second information manager, each comprising at least one raw data stream as input, an object storage pool configured to store formatted data objects, and at least one broadcast data stream as output, each raw data stream carrying a plurality of raw data objects;

each of the at least the first and the second information manager configured to:

generate a formatted data object from a received raw data object;

store a current state of the formatted data object in the object storage pool; and

broadcast the current state of the formatted data object on a particular broadcast data stream;

a client manager receiving at least one broadcast data stream as input, comprising an object pool cache, and connectable to a plurality of clients;

the client manager configured to:

establish communication sessions with a plurality of clients;

connect to at least [[one]] two broadcast data ~~stream~~ streams, wherein the client manager receives ~~a first~~ the particular broadcast data stream from [[a]] the first information manager of the plurality of information managers and ~~a second~~ the particular broadcast data stream from [[a]] the second information manager of the plurality of information managers;

receive on [[a]] each of the connected particular broadcast data stream [[a]] the current state ~~for a specific~~ of the formatted data object;

update [[an]] the object pool cache to reflect the current state of each of the ~~specific~~ formatted data ~~object~~ objects; and

transmit the current state of at least one of the ~~specific~~ formatted data ~~object~~ objects to a set of clients from the plurality of clients;

wherein the client manager further comprises a delivery manager comprising a client event queue associated with each client;

the delivery manager configured to:

queue state events directed to a particular client in the client event queue associated with the particular client, the state events containing the current state of ~~specific~~ formatted data objects and embedded functions that encompass a basic set of aggregation and combination rules for state events;

derive a client event from at least one of the queued state events prior to transmission of the client event to the respective client, wherein the deriving of the client event occurs upon placement of the at least one state event in the client event queue or

upon removal of the at least one state event from the client event queue, and further wherein ~~the format and configuration of the derived client event differs from the state event~~ said embedded functions that encompass a basic set of aggregation and combination rules for state events are removed from the client event; and

subsequently transmit the client event derived from the at least one queued state event to the respective client.

22. (Currently Amended) The system of claim 21, wherein each of the at least the first and the second information manager is configured to:

determine if a prior version of the formatted data object was present in the object storage pool;

responsive to the determination that a prior version of the formatted data object was present, determine a data differential between the prior version and the current state of the formatted data object and broadcast the data differential on the particular broadcast data stream;

otherwise, broadcast the current state of the formatted data object on the particular broadcast data stream.

23. (Currently Amended) The system of claim 21, wherein the client manager further comprises a client profile database containing a plurality of client profiles therein, each client profile comprising data indicating data stream subscriptions and at least one object rule associated with the subscribed data streams;

the client manager being further configured to, for each respective client subscribed to a particular ~~input~~ broadcast data stream, evaluate from the client profile associated with the respective client the object rules associated with the particular ~~input~~ broadcast data stream against the ~~specific~~ formatted data object to identify the set of clients.

24. (Canceled)

25. (Currently Amended) The system of claim 21, wherein each of the at least the first and the second information manager further comprises an offer processor configured to determine an object type of the raw data object and apply a set of formatting rules to the received raw data object in accordance with the object type to generate the formatted data object.

26. (Currently Amended) The system of claim 25, wherein each of the at least the first and the second information manager comprises a processing database having object typing and formatting rules stored therein.

27. (Currently Amended) The system of claim 25, wherein each of the at least the first and the second information manager further comprises a translator receiving the raw data stream as input and configured to translate the raw data object into a raw event comprising at least one name-value pair and provide the raw event as output;

the offer processor receiving the raw event as input.

28. (Original) The system of claim 25, wherein the client manager is configured to select the particular broadcast data stream from a plurality of broadcast data streams according to the determined object type.

29. (Original) The system of claim 21, wherein the client manager is further configured to:

validate the contents of the raw data object; and

upon a failed validation, prevent subsequent broadcast of the current state of the formatted data object data derived from the raw data object.

30. (Original) The system of claim 21, wherein the raw data object comprises information related to a financial product offering.

31. (Original) The system of claim 21, wherein the client manager is further configured to:

in response to a detection that a particular client has subscribed to a new broadcast data stream not in set of connected broadcast data streams, connecting to the new broadcast data stream.

32. (Canceled)

33. (Previously Presented) The system of claim 21, wherein the delivery manager is further configured to:

identify pending state events associated with a respective client which are related to a common data object; and

aggregate the identified state events to thereby reduce the number of pending state events.

34. (Currently Amended) The system of claim 21, wherein the client manager is further configured to:

monitor the performance of communication with each connected client; and

dynamically adjust a rate at which the current state of the ~~specific~~ formatted data object is transmitted to each respective client in response to the monitored performance.

35. – 49. (Canceled)

Allowed Claims

Claims 1-3, 5-15, 17-23, 25-31, 33, and 34 are allowed.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

none of the qualifying prior art references of record, taken alone or in combination, disclose or reasonably suggest: a combination of elements as claimed in independent claims 1 and 21, wherein deriving a client event from the at least one state event occurs prior to transmission of the client event to the respective client, wherein the deriving of the client event occurs upon placement of the at least one state event in the client event queue or upon removal of the at least one state event from the client event queue, and further wherein said embedded functions that encompass a basic set of aggregation and combination rules for state events are removed from the client event. Specifically, the prior art of record fails to disclose or reasonably suggest that deriving a client event from the at least one state event includes removal of embedded functions that encompass a basic set of aggregation and combination rules for state events, as such are recited in combination with the other claim elements.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLEG SURVILLO whose telephone number is (571)272-9691. The examiner can normally be reached on M-Th 8:30am - 6:00pm; F 8:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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